

Work Order ID 149424 -2 split

Monday, July 25, 2016 1:14:46 PM

\*149424\*

DRAB GREEN

Page 1

Item ID: D2803-042

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Bracket Assembly

Stop

\*NS2\*

Start Date: 9/27/2016 Start Qty: 12.00

\*12\*

Cust Item ID:

Required Date: 9/30/2016 Req'd Qty: 12.00

\*12\*

Customer:

Reference:

Approvals:

Process Plan: DAS

Date: JUL 26 2016

Tooling:

Date:

Run Start

\*NR1\*

QC: 21 9-23

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description                          | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr                                      |                      |         |        |              |               |               |                  |                |
| D2803                          | C                                                 |                      |         |        |              |               |               |                  |                |
| 100                            | Small Fab                                         | 0.00                 |         |        |              |               |               |                  |                |
| *100*                          |                                                   |                      |         |        |              |               |               |                  |                |
| Small Fab                      | Memo                                              | 0.14                 |         |        |              |               |               |                  |                |
| Small Fab                      | Press D2805-2 and D2809 into arm as per Dwg D2803 |                      |         |        |              |               |               |                  |                |
| 110                            | QC5- Inspect part completeness to step on W/O     | 0.00                 |         |        |              |               |               |                  |                |
| *110*                          |                                                   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo                                              | 0.04                 |         |        |              |               |               |                  |                |
| Quality Control                |                                                   |                      |         |        |              |               |               |                  |                |

DAS  
36  
9-89

DAS  
38  
9-89

AUG 29 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | <b>MRB (QSI042) Approval</b><br><br>Completed By<br><br>Lead hand / Supervisor<br>Approval Verification<br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |                                                                                                                                                |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                |  |  |

| Root Cause                                  |  |                                                |  | FAULT CATEGORY                                  |  |                                                            |  |
|---------------------------------------------|--|------------------------------------------------|--|-------------------------------------------------|--|------------------------------------------------------------|--|
| Environment <input type="checkbox"/>        |  | No Re-verification <input type="checkbox"/>    |  | Pressure/Forced <input type="checkbox"/>        |  | Temperature/Cure <input type="checkbox"/>                  |  |
| Design <input type="checkbox"/>             |  | Operator <input type="checkbox"/>              |  | Bending <input type="checkbox"/>                |  | Set-up <input type="checkbox"/>                            |  |
| Doc/Data <input type="checkbox"/>           |  | Offset/Setup <input type="checkbox"/>          |  | Centre Not Concentric <input type="checkbox"/>  |  | BOM/Route <input type="checkbox"/>                         |  |
| Equip/Tooling <input type="checkbox"/>      |  | Supplier <input type="checkbox"/>              |  | Cracks <input type="checkbox"/>                 |  | Broken/Damage/Defect <input type="checkbox"/>              |  |
| Handling/Pre <input type="checkbox"/>       |  | Training <input type="checkbox"/>              |  | Crimp/Kink/Ripple/Wave <input type="checkbox"/> |  | Inspection Incomplete/Unqualified <input type="checkbox"/> |  |
| Material <input type="checkbox"/>           |  | Use for Testing <input type="checkbox"/>       |  | Cuffs <input type="checkbox"/>                  |  | Contamination <input type="checkbox"/>                     |  |
| Internal Transport <input type="checkbox"/> |  | Poor Information <input type="checkbox"/>      |  | Crushing <input type="checkbox"/>               |  | Countersink <input type="checkbox"/>                       |  |
| Tribal Knowledge <input type="checkbox"/>   |  | Rushing <input type="checkbox"/>               |  | Heat Treat <input type="checkbox"/>             |  | Cut Too Short <input type="checkbox"/>                     |  |
| LOA <input type="checkbox"/>                |  | Product Improvement <input type="checkbox"/>   |  | Wave/Twist in Tube <input type="checkbox"/>     |  | Instructions Incomplete/Unclear <input type="checkbox"/>   |  |
| Substation <input type="checkbox"/>         |  | Process Improvement <input type="checkbox"/>   |  | Marks/Chatter <input type="checkbox"/>          |  | Drill Holes <input type="checkbox"/>                       |  |
| Past Expiry Date <input type="checkbox"/>   |  | Manufacturing Process <input type="checkbox"/> |  | OTHER : _____                                   |  |                                                            |  |
| Misidentified <input type="checkbox"/>      |  | Past Due <input type="checkbox"/>              |  |                                                 |  |                                                            |  |

**Work Order ID 149424**

Monday, July 25, 2016 1:14:46 PM

**\*149424\***

Page 2

Item ID: D2803-042 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Bracket Assembly  
Start Date: 9/27/2016 Start Qty: 12.00 **\*12\*** Cust Item ID:  
Required Date: 9/30/2016 Req'd Qty: 12.00 **\*12\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp  |
|--------------------------------|-------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|-----------------|
| 125                            |                                           | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*125*</b>                   |                                           |                      |         |        |              | 8             |               |                  |                 |
| SprayPaint                     | Memo                                      | 0.00                 |         |        |              |               |               |                  |                 |
| Spray Painting                 | PRIME B <u>135172</u>                     |                      |         |        |              |               |               |                  | <u>27.09.16</u> |
|                                | SPRAY PAINT DRAB GREEN<br>B <u>135413</u> |                      |         |        |              |               |               |                  |                 |
|                                | PER QSI005                                |                      |         |        |              |               |               |                  |                 |
| 135                            | QC14- Inspect Spray Paint                 | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*135*</b>                   |                                           |                      |         |        |              | 8X            |               |                  |                 |
| QC                             | Memo                                      | 0.00                 |         |        |              |               |               |                  |                 |
| Quality Control                |                                           |                      |         |        |              |               |               |                  | <u>16/09/29</u> |
| 150                            | Small Fab                                 | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*150*</b>                   |                                           |                      |         |        |              | 8X            |               |                  |                 |
| Small Fab                      | Memo                                      | 0.16                 |         |        |              |               |               |                  |                 |
| Small Fab                      | Assemble as per Dwg D2803.                |                      |         |        |              |               |               |                  | <u>16/10/05</u> |

DAS 36 9-89

DAS 36 9-89



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Step #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Mislabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Work Order ID 149424**

Monday, July 25, 2016 1:14:46 PM

**\*149424\***

Page 3

Item ID: D2803-042 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Bracket Assembly  
Start Date: 9/27/2016 Start Qty: 12.00 **\*12\*** Cust Item ID:  
Required Date: 9/30/2016 Req'd Qty: 12.00 **\*12\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                        | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp    |
|--------------------------------|-------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|-------------------|
| 160                            | QC5- Inspect part completeness to step on W/O   | 0.00                 |         |        |              |               |               |                  |                   |
| <b>*160*</b>                   |                                                 |                      |         |        |              |               |               |                  |                   |
| QC                             | Memo                                            | 0.04                 |         |        |              |               |               |                  | DAS<br>38<br>9-89 |
| Quality Control                |                                                 |                      |         |        |              |               |               |                  | OCT 12 2016       |
| 170                            | Identify as per dwg & Stock Location: <u>St</u> | 0.00                 |         |        |              |               |               |                  |                   |
| <b>*170*</b>                   |                                                 |                      |         |        |              |               |               |                  |                   |
| Packaging                      | Memo                                            | 0.02                 |         |        |              |               |               |                  | DAS<br>6<br>9-89  |
| Packaging                      |                                                 |                      |         |        |              |               |               |                  | OCT 12 2016       |
| 180                            | QC21- Final Inspection - Work Order Release     | 0.00                 |         |        |              |               |               |                  |                   |
| <b>*180*</b>                   |                                                 |                      |         |        |              |               |               |                  |                   |
| QC                             | Memo                                            | 0.20                 |         |        |              |               |               |                  | DAS<br>21<br>9-89 |
| Quality Control                |                                                 |                      |         |        |              |               |               |                  | OCT 13 2016       |

DAS  
21  
9-89

OCT 12 2016

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Step #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |



# Picklist Print

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Page 1

Work Order ID: 149424

**\*149424\***

Parent Item: D2803-042

**\*D2803-042\***

Parent Item Name: Bracket Assembly

Start Date: 9/27/2016

Required Date: 9/30/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP F05.03.30MS21043-3 was MS21042L3KJ/JLM IPP REV:G  
16.06.23 AS PER DWG REV.C DD VERF:JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty    | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|-----------------|---------------|----------------|--------|
| D2803-2                         |                        | Manufactured  | No          |                     |                  | 100             | Each               | 4.0000         | 1           | 12              |               |                |        |
| <b>*D2803-2*</b>                |                        |               |             |                     |                  |                 |                    |                | <b>**</b>   |                 |               |                |        |
| Bracket                         |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               |                |        |
|                                 |                        |               |             | ST473               |                  |                 |                    | 4              |             |                 |               |                |        |
|                                 |                        |               |             | 146565              |                  |                 |                    | 4              |             |                 |               |                |        |
| D2805-2                         |                        | Manufactured  | No          |                     |                  | 100             | Each               | 14.0000        | 1           | 12              |               |                |        |
| <b>*D2805-2*</b>                |                        |               |             |                     |                  |                 |                    |                | <b>**</b>   |                 |               |                |        |
| Stop                            |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               |                |        |
|                                 |                        |               |             | GA                  |                  |                 |                    | 14             |             |                 |               |                |        |
|                                 |                        |               |             | 130072              |                  |                 |                    | 4              |             |                 |               |                |        |
|                                 |                        |               |             | 146663              |                  |                 |                    | 10             |             |                 |               |                |        |
| D2809                           |                        | Manufactured  | No          |                     |                  | 100             | Each               | 33.0000        | 1           | 12              |               |                |        |
| <b>*D2809*</b>                  |                        |               |             |                     |                  |                 |                    |                | <b>**</b>   |                 |               |                |        |
| Washer                          |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               |                |        |
|                                 |                        |               |             | GA                  |                  |                 |                    | 8              |             |                 |               |                |        |
|                                 |                        |               |             | 127638              |                  |                 |                    | 4              |             |                 |               |                |        |
|                                 |                        |               |             | 130466              |                  |                 |                    | 2              |             |                 |               |                |        |
|                                 |                        |               |             | 146514              |                  |                 |                    | 2              |             |                 |               |                |        |
|                                 |                        |               |             | ST011               |                  |                 |                    | 25             |             |                 |               |                |        |
|                                 |                        |               |             | 138750              |                  |                 |                    | 14             |             |                 |               |                |        |
|                                 |                        |               |             | 34035               |                  |                 |                    | 11             |             |                 |               |                |        |

DAS  
36  
9-89

16/08/29

B149324 (12x)

DAS  
36  
9-89

16/08/29

B149476 (10x)

DAS  
36  
9-89

16/10/05

149434  
(8x)

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                             |                                                                                                                                                                                    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
|--------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------|---------------------------------------------|-----------------------------------|---------------------------------------|------------------------------------------------|------------------------------------|--------------------------------|-----------------------------------------------|----------------------------------------|-----------------------------------|---------------------------------|-----------------------------------------------|-------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------|-------------------------------------------------|------------------------------------------------------------|---------------------------------------------|--------------------------------------------|-----------------------------------|------------------------------------------|--------------------------------|----------------------------------------|------------------------------------------|-------------------------------------|---------------------------------------------|-------------------------------------------|-----------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------------------------|----------------------------------|-------------------------------------|----------------------------------------|-------------------------------------|---------------------------------|------------------------------|----------------------------------------------|---------------------------------------------|----------------------------------------------------------|---------------------------------------|----------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|---------|--|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                             | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                           | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
| Date :                                                       |                                             | Step #:                                                                                                                                                                            |                                           | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   | MRB (QSI042) Approval                                                                                              |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
| Description Work Order Deviation                             |                                             |                                                                                                                                                                                    |                                           | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                           |                                 |                                   | Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
|                                                              |                                             |                                                                                                                                                                                    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
|                                                              |                                             |                                                                                                                                                                                    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
| Root Cause                                                   |                                             | FAULT CATEGORY                                                                                                                                                                     |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Positioned Wrong <input type="checkbox"/> | Design <input type="checkbox"/> | Operator <input type="checkbox"/> | Bending <input type="checkbox"/>                                                                                   | Set-up <input type="checkbox"/> | Folio/Program <input type="checkbox"/> | Outside Dimensions <input type="checkbox"/> | Doc/Data <input type="checkbox"/> | Offset/Setup <input type="checkbox"/> | Centre Not Concentric <input type="checkbox"/> | BOM/Route <input type="checkbox"/> | Grain <input type="checkbox"/> | Over/Under tolerance <input type="checkbox"/> | Equip/Tooling <input type="checkbox"/> | Supplier <input type="checkbox"/> | Cracks <input type="checkbox"/> | Broken/Damage/Defect <input type="checkbox"/> | Weld <input type="checkbox"/> | Part Incorrect <input type="checkbox"/> | Handling/Pre <input type="checkbox"/> | Training <input type="checkbox"/> | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/> | Part Lost/Missing <input type="checkbox"/> | Material <input type="checkbox"/> | Use for Testing <input type="checkbox"/> | Cuffs <input type="checkbox"/> | Contamination <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | Part Moved <input type="checkbox"/> | Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/> | Crushing <input type="checkbox"/> | Countersink <input type="checkbox"/> | Off-set <input type="checkbox"/> | Drawing <input type="checkbox"/> | Tribal Knowledge <input type="checkbox"/> | Rushing <input type="checkbox"/> | Heat Treat <input type="checkbox"/> | Cut Too Short <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Finish <input type="checkbox"/> | LOA <input type="checkbox"/> | Product Improvement <input type="checkbox"/> | Wave/Twist in Tube <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Fit/Function <input type="checkbox"/> | Misread <input type="checkbox"/> | Substation <input type="checkbox"/> | Process Improvement <input type="checkbox"/> | Marks/Chatter <input type="checkbox"/> | Drill Holes <input type="checkbox"/> | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/> | Past Expiry Date <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/> | OTHER : |  |  |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>           |                                                                                                                                                                                    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                           |                                 |                                   |                                                                                                                    |                                 |                                        |                                             |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |  |



# Picklist Print

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Page 2

Work Order ID: 149424

**\*149424\***

Parent Item: D2803-042

**\*D2803-042\***

Parent Item Name: Bracket Assembly

Start Date: 9/27/2016

Required Date: 9/30/2016

Start Qty: 12.00

Required Qty: 12.00

AN3C16A

Purchased

No

150

Each

89.0000

2

24

**\*AN3C16A\***

BOLT

\*\*

16/09/29 DAS 36 9-89

Location

Loc Qty

Loc Code

ST348

89

m131153

2

m131957

12

m134955

75

16

D3672-15

Manufactured

No

150

Each

231.0000

4

48

**\*D3672-15\***

Phenolic Washer

\*\*

16/09/29 DAS 36 9-89

Location

Loc Qty

Loc Code

ST050

231

148073

231

3

149430 29

MS21043-3

Purchased

No

150

Each

920.0000

2

24

**\*MS21043-3\***

Nut

\*\*

16/09/29 DAS 36 9-89

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

11

m130673

11

GA

237

m133990

237

16

OVER007

400

m135058

400

ST302

86

m134861

86

ST304

106

m131340

106

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Shop Packet Print

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DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

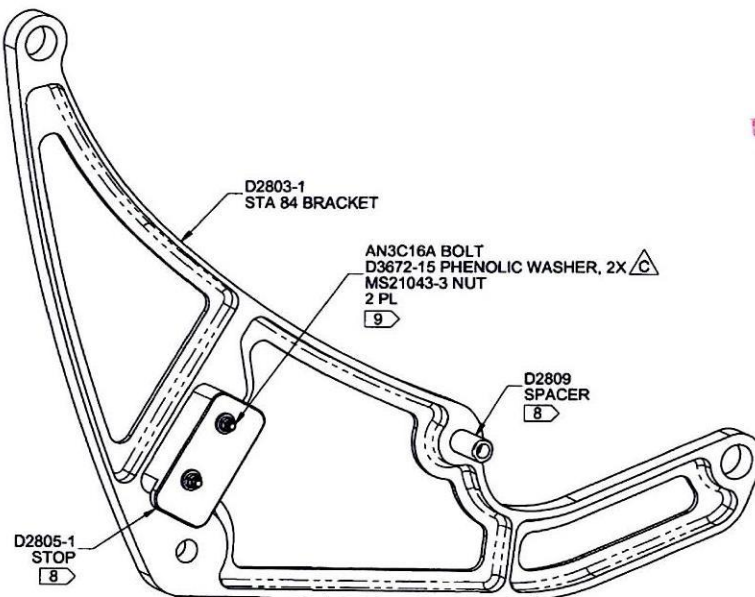
Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                               |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                               |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | <b>MRB (QSI042) Approval</b><br><br><b>Completed By</b><br><br><b>Lead hand / Supervisor Approval Verification</b><br><br><b>QC / QA Coordinator Approval</b> |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |                                                                                                                                                               |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                               |  |  |

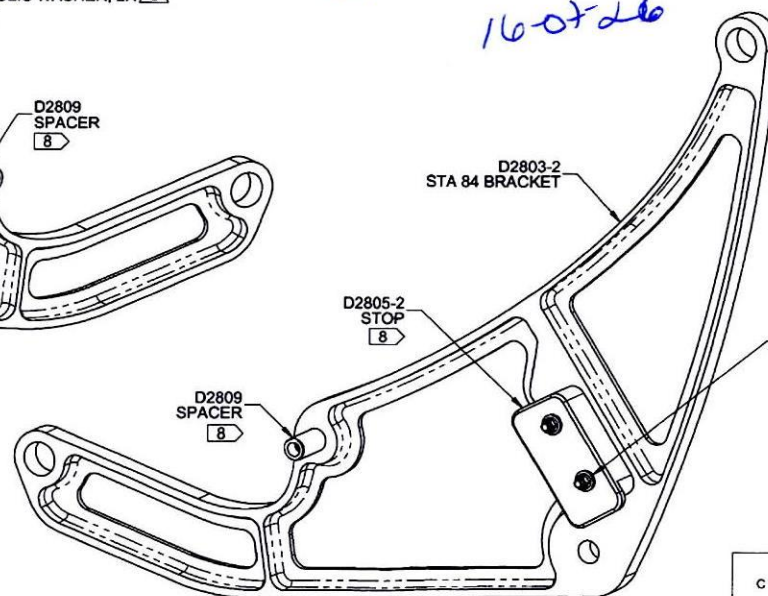
|                                             |                                                |                                                 |                                                            |                                                |                                               |  |  |
|---------------------------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|--|--|
| <b>Root Cause</b>                           |                                                | <b>FAULT CATEGORY</b>                           |                                                            |                                                |                                               |  |  |
| Environment <input type="checkbox"/>        | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>        | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>      | Positioned Wrong <input type="checkbox"/>     |  |  |
| Design <input type="checkbox"/>             | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>         | Outside Dimensions <input type="checkbox"/>   |  |  |
| Doc/Data <input type="checkbox"/>           | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>  | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                 | Over/Under tolerance <input type="checkbox"/> |  |  |
| Equip/Tooling <input type="checkbox"/>      | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                 | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                  | Part Incorrect <input type="checkbox"/>       |  |  |
| Handling/Pre <input type="checkbox"/>       | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>    | Part Lost/Missing <input type="checkbox"/>    |  |  |
| Material <input type="checkbox"/>           | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                  | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>       | Part Moved <input type="checkbox"/>           |  |  |
| Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>               | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>               | Drawing <input type="checkbox"/>              |  |  |
| Tribal Knowledge <input type="checkbox"/>   | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>             | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>            | Finish <input type="checkbox"/>               |  |  |
| LOA <input type="checkbox"/>                | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>     | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>          | Misread <input type="checkbox"/>              |  |  |
| Substation <input type="checkbox"/>         | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>          | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/>     |  |  |
| Past Expiry Date <input type="checkbox"/>   | Manufacturing Process <input type="checkbox"/> | <b>OTHER :</b>                                  |                                                            |                                                |                                               |  |  |
| Misidentified <input type="checkbox"/>      | Past Due <input type="checkbox"/>              |                                                 |                                                            |                                                |                                               |  |  |

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RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 149424 M.S  
16 of 26

| ITEM | QTY<br>-041 | QTY<br>-042 | P/N       | DESCRIPTION       |
|------|-------------|-------------|-----------|-------------------|
|      | X           |             | D2803-041 | BRACKET ASSY      |
|      |             | X           | D2803-042 | BRACKET ASSY      |
| 1    | 1           |             | D2803-1   | STA 84 BRACKET    |
| 2    |             | 1           | D2803-2   | STA 84 BRACKET    |
| 3    | 1           |             | D2805-1   | STOP              |
| 4    |             | 1           | D2805-2   | STOP              |
| 5    | 1           | 1           | D2809     | SPACER            |
| 6    | 4           | 4           | D3672-15  | PHENOLIC WASHER   |
| 7    | 2           | 2           | AN3C16A   | BOLT              |
| 8    | 2           | 2           | MS21043-3 | NUT, SELF-LOCKING |



**D2803-041 BRACKET ASSY**



**D2803-042 BRACKET ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.58 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS

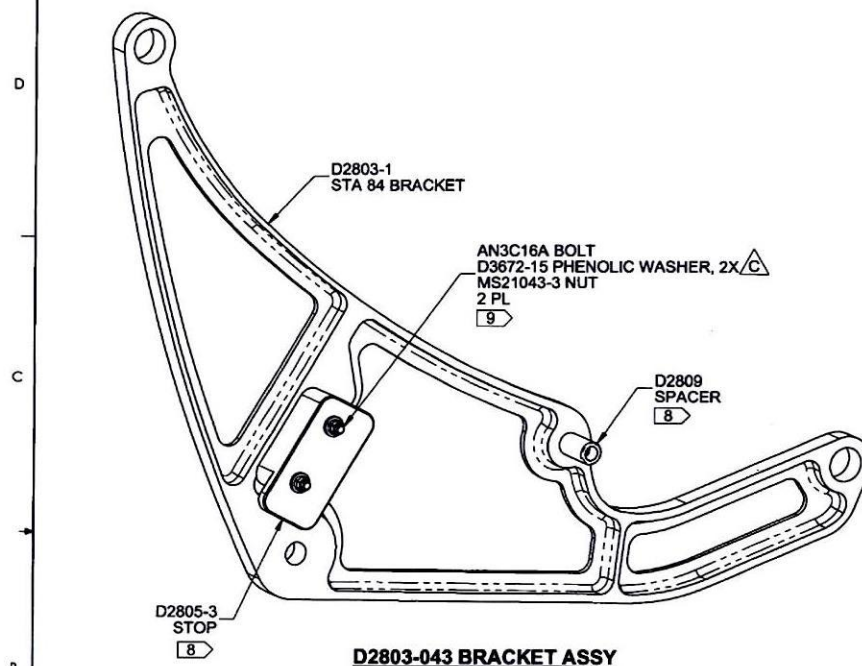
**RELEASED**

2016 JUN 22 4P  
ECN 16-661

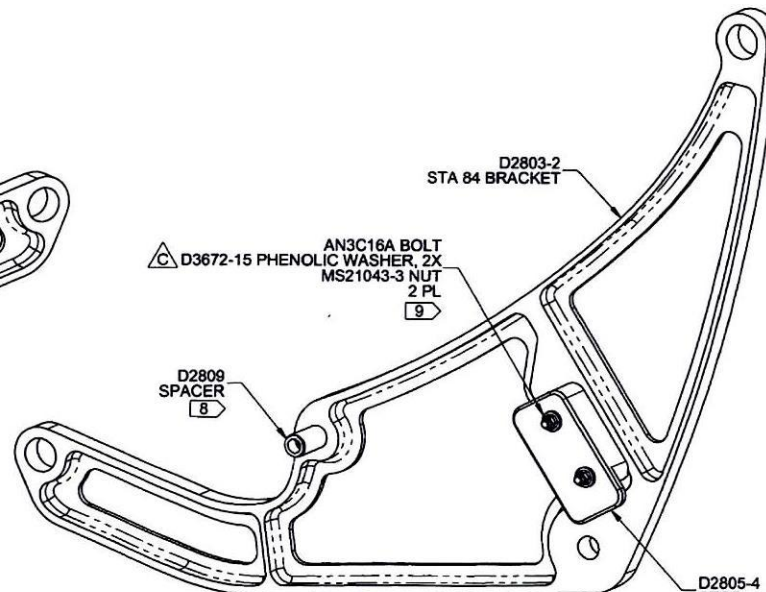
|                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |                                                          |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------|
| C                                                                                                                                                                                                                                                                                        | REVISE TO CURRENT FORMAT; ADD DETAILS A AND F AND SECTION E-E; D3672-15 WAS NAS1515H3. ZONES C3-3/C6-4 AND B3-3/B6-3: 2.656 WAS 2.654 AND 0.438 WAS 0.437; REASON: CAD ERROR. | MB                                                       | 16.04.11     |
| B                                                                                                                                                                                                                                                                                        | ADD CUTOUPS AND -043/-044                                                                                                                                                     | CP                                                       | 04.11.22     |
| A                                                                                                                                                                                                                                                                                        | NEW ISSUE                                                                                                                                                                     | CP                                                       | 00.11.07     |
| REV.                                                                                                                                                                                                                                                                                     | DESCRIPTION                                                                                                                                                                   | BY                                                       | DATE         |
| DESIGN                                                                                                                                                                                                                                                                                   | CP                                                                                                                                                                            | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA |              |
| DRAWN                                                                                                                                                                                                                                                                                    | MB                                                                                                                                                                            |                                                          |              |
| CHECKED                                                                                                                                                                                                                                                                                  | ML                                                                                                                                                                            |                                                          |              |
| MFG. APPR.                                                                                                                                                                                                                                                                               | JLM                                                                                                                                                                           |                                                          |              |
| APPROVED                                                                                                                                                                                                                                                                                 | WM                                                                                                                                                                            |                                                          |              |
| DE APPR.                                                                                                                                                                                                                                                                                 | DS                                                                                                                                                                            | <b>STA 84 BRACKET</b>                                    |              |
| DATE                                                                                                                                                                                                                                                                                     | 16.04.11                                                                                                                                                                      | REV. C                                                   | SHEET 1 OF 4 |
|                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               | SCALE                                                    | NTS          |
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| ITEM | QTY -043 | QTY -044 | P/N       | DESCRIPTION       |
|------|----------|----------|-----------|-------------------|
|      | X        |          | D2803-043 | BRACKET ASSY      |
|      |          | X        | D2803-044 | BRACKET ASSY      |
| 1    | 1        |          | D2803-1   | STA 84 BRACKET    |
| 2    |          | 1        | D2803-2   | STA 84 BRACKET    |
| 3    | 1        |          | D2805-3   | STOP              |
| 4    |          | 1        | D2805-4   | STOP              |
| 5    | 1        | 1        | D2809     | SPACER            |
| 6    | 4        | 4        | D3672-15  | PHENOLIC WASHER   |
| 7    | 2        | 2        | AN3C16A   | BOLT              |
| 8    | 2        | 2        | MS21043-3 | NUT, SELF-LOCKING |



**D2803-043 BRACKET ASSY**



**D2803-044 BRACKET ASSY**

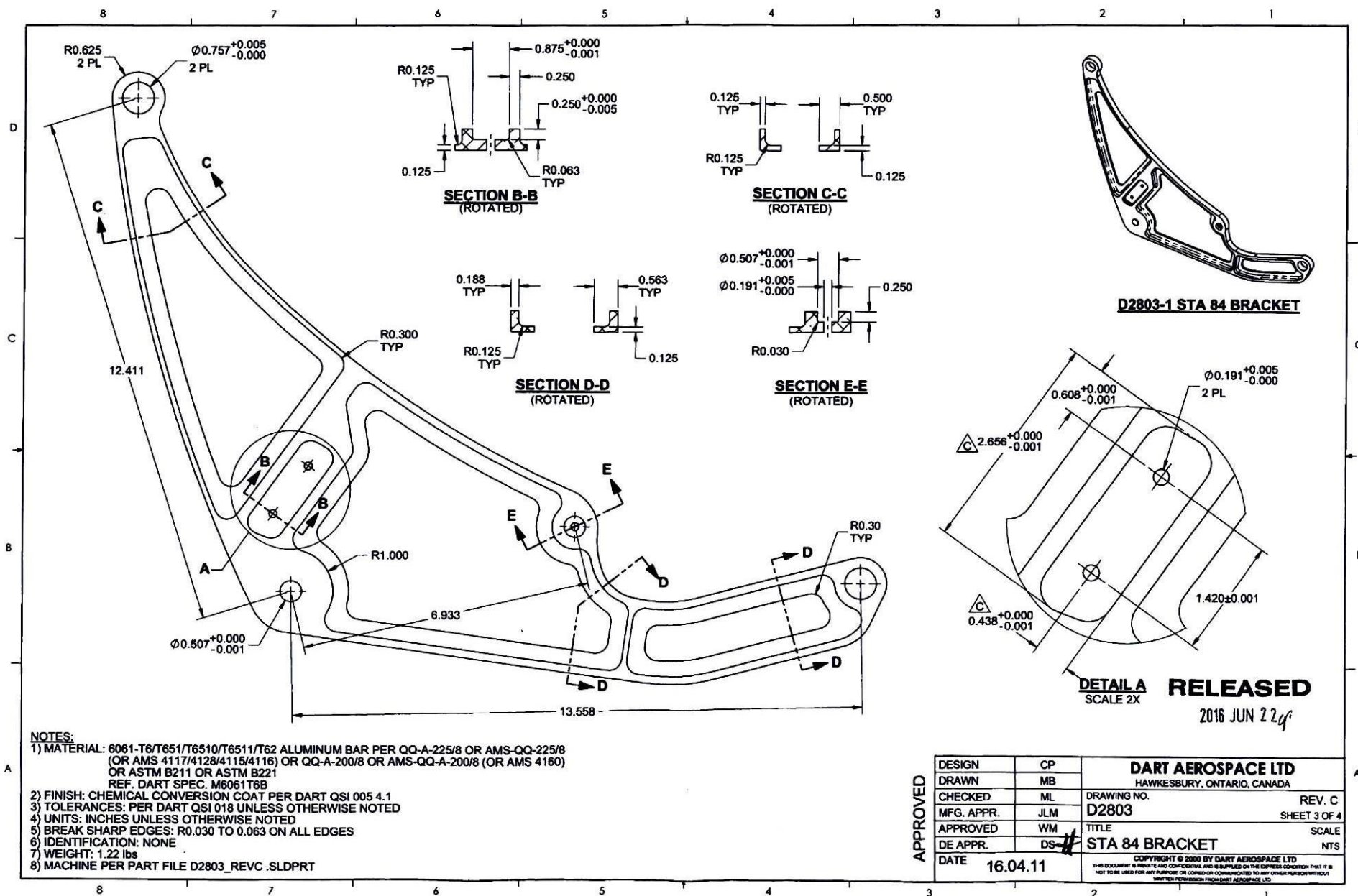
**RELEASED**  
2016 JUN 22 *up*

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.58 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS

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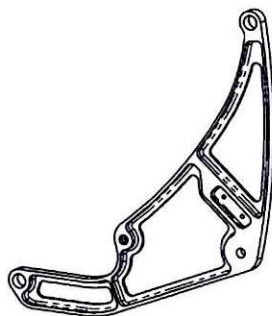
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|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | CP       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                 |              |
| DRAWN      | MB       |                                                                                                                                                                                                                                                                          |              |
| CHECKED    | ML       | DRAWING NO.                                                                                                                                                                                                                                                              | REV. C       |
| MFG. APPR. | JLM      | <b>D2803</b>                                                                                                                                                                                                                                                             | SHEET 2 OF 4 |
| APPROVED   | WM       | TITLE                                                                                                                                                                                                                                                                    | SCALE        |
| DE APPR.   | DS       | <b>STA 84 BRACKET</b>                                                                                                                                                                                                                                                    | NTS          |
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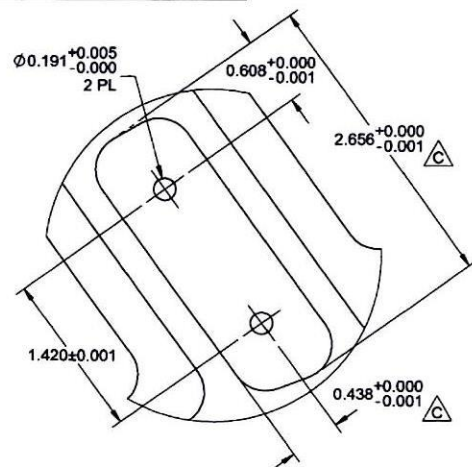
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|            |          |                                                                                                                                                                                                                                                                                                               |              |
|------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | CP       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                      |              |
| DRAWN      | MB       |                                                                                                                                                                                                                                                                                                               |              |
| CHECKED    | ML       | DRAWING NO.                                                                                                                                                                                                                                                                                                   | REV. C       |
| MFG. APPR. | JLM      | <b>D2803</b>                                                                                                                                                                                                                                                                                                  | SHEET 3 OF 4 |
| APPROVED   | WM       | TITLE                                                                                                                                                                                                                                                                                                         | SCALE        |
| DE APPR.   | DS       | <b>STA 84 BRACKET</b>                                                                                                                                                                                                                                                                                         | NTS          |
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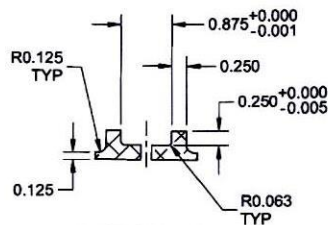




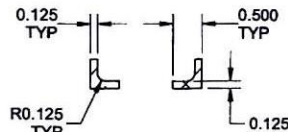
**D2803-2 STA 84 BRACKET**



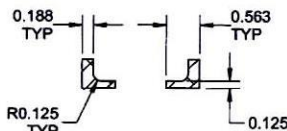
**DETAIL F**  
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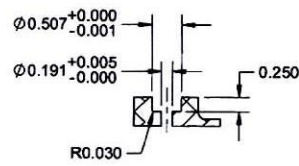
**SECTION G-G**  
(ROTATED)



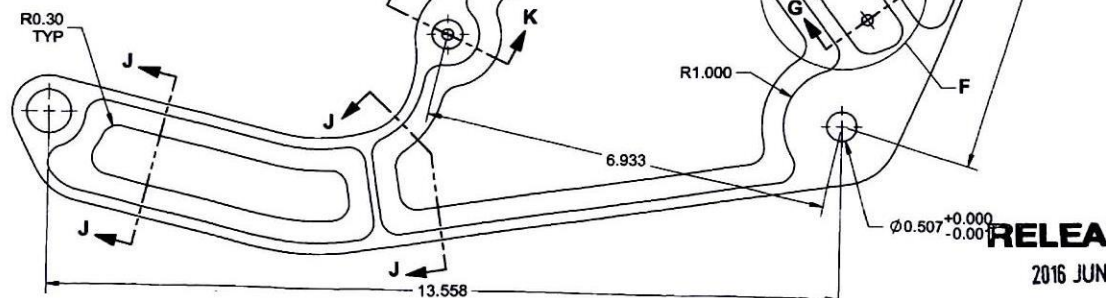
**SECTION H-H**  
(ROTATED)



**SECTION J-J**  
(ROTATED)



**SECTION K-K**  
(ROTATED)



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2016 JUN 22

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221  
REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.22 lbs
- 8) MACHINE PER PART FILE D2803\_REV.C.SLDPRT

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|                                                                                                                                                                                                                          |          |                                        |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                   | CP       | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                    | MB       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                  | ML       | DRAWING NO.                            | REV. C       |
| MFG. APPR.                                                                                                                                                                                                               | JLM      | <b>D2803</b>                           | SHEET 4 OF 4 |
| APPROVED                                                                                                                                                                                                                 | WM       | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                 | DS       | <b>STA 84 BRACKET</b>                  | NTS          |
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